No. 1471

INDEX TO VOLUME 36

NOTE

1 Names of authors and discussors, also deceased members preceding an obituary notice, are in caps and small caps. A discussor is distinguished from the author of a paper by (*D*), placed after the name of the paper.

2 Titles of papers, where placed after the name of the author, and appearing in their exact form, are in italic. Papers are indexed not under their title but under their subject matter.

3 The Society is not responsible as a body for the statement of facts or opinions in the papers and discussions.

PAGE

Abrasive, action of 451
Adamson furnace 1036
ADLER, A. A. Standard cross-sections (*D*) 968
Affelder, W. L., box car loader, quoted 331
AGNEW, J. L. Powdered fuel (*D*) .....
.....137, 141, 143, 145, 148, 151, 153, 155, 162, 164, 165, 166
Air compressor, compound, regulation 769
Hall volume regulator 759
Reynolds 775
Richards unloader 774
Rogler valve 777
unloaders 759
volume regulator for 759
ALDEN, GEO. I. *Operation of Grinding Wheels in Machine Grinding* 451
ALFORD, L. P. Industrial service work (*D*) 180, 184
Standard cross-sections (*D*) 969
ALLEN, WALTER C. Municipal lighting plant (*D*) 683
Alloy steel for locomotives 517
American Locomotive Company, powdered fuel plant 109
American Foundrymen's Association, castings standard 1003
Amsler's recorder 733
Annual meeting, 1914 360
Annual report, council, 1914 5
ANTHONY, J. T. Locomotive firebox (*D*) 497
Aschersleben civil service school 639
Ash, coal, clinkering 801
fusion temperature 808, 826
fusion tests 811, 819
viscosity 803
Atlas burner 103
AUEL, CARL BENNETT. *Standardization in the Factory* 431

PAGE

Auxiliary, electric light plant 661
water power 838
AVERILL, E. A. Locomotive stoker (*D*) 525

BAKER, CHARLES F., obituary 1087
BAKER, CHARLES WHITING. Powdered fuel (*D*) 167
Engineering publicity (*D*) 585
Municipal engineering (*D*) 627
BAKER, NEWTON D. Municipal engineering (*D*) 626
BALLARD, FREDERICK W. *The Design and Operation of the Cleveland Municipal Electric Light Plant* 649
BALLINGER, W. F. Factory buildings (*D*) 415
BARBA, W. P. Powdered fuel (*D*) 138, 141, 143, 145, 147, 151, 153, 155, 157, 162, 163, 165, 166
BARNHURST, H. G. Powdered fuel (*D*) 138, 141, 145, 149, 151, 153, 155, 157, 162, 163, 164, 165, 166
Barus and Strouhal, tempering steel, quoted 868
BASSHOR, CHARLES HAZELTINE, obituary 1088
BEMIS, EDWARD W. Municipal lighting plant (*D*) 684
Benedicks, C., hardening steel, quoted 860
BENNETT, W. A. Crane wheel standardization (*D*) 926
Bergwyn, ash tests, quoted 803
Bettington boiler 132
Blake pulverized coal burner 126
BOERNER, EMIL C., obituary 1088
Boiler, A.S.M.E. standard 1054
bars, specifications 993
Bettington 132
calking 1039
castings, specifications, A.S.T.M. 996
code 977
committee 9, 21
fittings 1050, 1060, 1065
Franklin 131
furnace 1033, 1035
corrugated 1037
fusible plugs 1085
gages, steam and water 1049, 1059
heads 1023
hydrostatic tests 1053, 1061, 1066
joints 1018, 1056
efficiency 1067
ligaments 1020
locomotive 488
materials 981
strength 982, 1055, 1063
openings 1039, 1056

PAGE

Boiler plates 983
specifications 985
pressures, test 1053, 1061, 1066
working 1017, 1055, 1062
rivets 1039
specifications 989
rivet iron, specifications 1005
safety valve 1042, 1057, 1064, 1079
setting 1052, 1060
staybolts, specifications 993, 1008
stays 1023
Stirling, tests 673
surfaces, stayed 1023, 1076
tubes 983, 1038
specifications 1014
waste heat 113
water tube, Stirling 667
wrought-iron, specifications 1011
BOLTON, REGINALD P. Police organization (*D*) 547
Municipal engineering (*D*) 620
Municipal lighting plant (*D*) 685
Bolts, flange 30
Bonus payments 693
BOURNE, GEO. L. Locomotive superheater (*D*) 509
BOYD, W. WALLACE. *Railroad Track Scale* 211
BRASHEAR, JOHN A. Treatment of steel (*D*) 870
Breckenridge, steaming tests of locomotives, quoted 514
Briggs standard, pipe threads, committee on 9
Brinell hardness, tool steel 858
Brooklyn electric light station 651
Brown furnace 1037
BRUERE, HENRY. *The Future of the Police Arm from an Engineering Standpoint* 535
BRUNET, ROBERT L. Municipal lighting plant (*D*) 676
Bryce, James, American commonwealth, quoted 624
Buildings, concrete factory 403
BURLINGAME, L. D. Standardization in factory (*D*) 449
Burner, Atlas 103
fuel dust 89, 103, 123
BUSEY, FRANK L., obituary 1088

CARPENTER, R. C. *Pulverized Coal Burning in the Cement Industry* 85
CARY, O. R. Hardening tool steel (*D*) 869
Castings, A.S.T.M. specifications 1000
Catalogues, committee on 9
Cement, burning 87
industry, pulverized coal in 85
mill, electric drive 955

PAGE

CHAMBERS, C. E. Locomotive front end (*D*) 506
Charpy and Grenet, hardening steel, quoted 867
Charter, St. Louis 571
CHRISTIE, A. G. Coal classification (*D*) 208
Gear testing (*D*) 236
Civil Service Act, cited 614
Clark, H. W., sewage sludge, quoted 597
Cleveland, engineering publicity in 573
municipal electric light plant 649
Clinker, coal 801
Coal, American, classification 189
heating value 189
bridge 299, 308
clam 326
classification, Frazer's 190
tables 199
White's 190
clinkering 801
derrick 298
docks 292
dumper 288
handling 301
Great Lakes 283
heating value, Parr & Wheeler's formula 193
loader 331
mill 104, 109
pulverized, burner 89, 103, 123, 153
combustion 162
controller 112
danger 151
economy 166
for steam making 123
grinding 145
in cement industry 85
storage 143
researches, Lord and Haas's 191
Mahler's 191
screening 330
storage, Dodge system 301
unloading 294
Cochrane feed heater and meter, illustration 736
COLE, F. J. Locomotive boiler (*D*) 490
Colleges, municipal, American 642
German 631
Concrete, reinforced, buildings 403
Constan, E. J., coal ash tests, quoted 815
Conveyor, powdered fuel 102

PAGE
COOKE, MORRIS LLEWELLYN. *Some Factors in Municipal Engineering*... 605
Cooley, vocational education, quoted ... 631
CORBETT, CHARLES H., obituary ... 1089
CORYELL, EDWIN M., obituary ... 1089
Cost, electric light ... 657
pulverizing coal ... 149
water power ... 270
water and steam power ... 265
system, elements ... 421
Council, annual report, 1914 ... 5
COUTANT, J. G. Powdered fuel (*D*) ... 168
CRAVATH, JAMES R. Municipal lighting plant (*D*) ... 679
Cross-sections, standard ... 965
CULLINEY, John V. Powdered fuel (*D*) ... 138, 141, 143, 149, 152, 153, 155, 159, 163, 164, 166, 168
Culliney pulverized coal burner ... 128

DALTON, WILLIAM. *An Installation for Powdered Coal Fuel in Industrial Furnaces* ... 109
Data, engineering, ownership of ... 24
DAVIDSON, CHAS. J. Powdered fuel (*D*) ... 168
DAVIS, CARLETON E. Cleaning filter sands (*D*) ... 702
Dawson, W. H., municipal life in Germany, quoted ... 636
Day, A. L., ash tests, quoted ... 805
DAY, CHARLES. Municipal engineering (*D*) ... 622
Day pulverized coal burner ... 123
DEAN, F. W. *Damages for Loss of Water Power* ... 835
Reinforced Concrete Factory Buildings ... 403
DEWOLF, ROGER. *Clinkering of Coal* ... 834
DISERENS, PAUL. Air compressor regulation (*D*) ... 774
DODGE, A. R. Rate-flow meter (*D*) ... 733
Dodge coal storage ... 301
Doelger pulverized coal burner ... 128
D'OLIER, WILLIAM L. Sewage sludge treatment (*D*) ... 601
DOTY, PAUL. Industrial service work (*D*) ... 184
DOUGHTY, GEORGE A., obituary ... 1090
DOW, ALEX. Municipal engineering (*D*) ... 625
Municipal lighting plant (*D*) ... 683
Drawings, mechanical ... 431
DRAYER, C. E. *The Engineer and Publicity* ... 573
DRISCOLL, CLEMENT J. Police organization (*D*) ... 548
DUDLEY, P. H. Sound steel rails (*D*) ... 953
DUNN, W. R. Powdered fuel (*D*) ... 138, 142, 144, 146, 147, 149, 154, 155, 163, 164, 165, 166, 169
Düsseldorf municipal training school ... 636

ECKART, WILLIAM R., obituary ... 1090
Economic problems, key to ... 365

PAGE

Education, municipal, American 642
German 631
Efficiency, measuring 417
Efficiency engineer, meaning of term 417
EHLERS, H. E. Meter testing (*D*) 756
Electric drive, cement mill 955
Electric light plant, auxiliaries 661
cost 657
design 649
Emscher sewage tank 594
Engineer, publicity and 573
Engineering, municipal 605
ENNIS, J. B. Locomotive, big (*D*) 530
ESHERICK, JOSEPH. Air compressor regulation (*D*) 774
Ethics, code 9, 23
committee, report 23
interpretation 27
EVANS, QUIMBY N., obituary 1092
EVANS, WILLIAM A. Powdered fuel (*D*) 139, 142, 144, 146, 147, 151, 152, 154, 155, 159

Factory, safety in 445
standardization in 431
FAIRLIE, JOHN A. Municipal training (*D*) 644
Fernald, R. H., gas producers, quoted 574
FETHERSTON, J. T. Snow removal (*D*) 564
Fieldner, A. F., ash fusion, quoted 829
Filter sand, cleaning 693
time study 698
task setting 700
Fire, Salem, concrete buildings in 406
Fireproof floors 387
Fittings, flanged 31
FLAD, EDWARD. *The New Charter for St. Louis* 571
Flanges, American Standard 29, 31, 1082
Manufacturers' Standard 29, 30
pipe, tables, charts 35
standardization, committee, report 29
U. S. Standard 29, 30
Floors, characteristics of 390
concrete 403
cost of various 388
fireproof 387
granolithic, specifications 398
tests 395
Flour milling 341, 347
Flow bend formulae 246
Fowler, G. L., car wheels, quoted 884

PAGE
Fox furnace 1037
Franklin boiler 131
Frazer, Persifor, Jr., coal classification, quoted 190
Friction, universal joint 461
Fuel, cement kiln 91
heating value 1081
pulverized, drying 95
explosions 135
making 98
storing 102
symposium on 85
topical discussion 137
Fuller mill 101
FURMAN, F. DE R. Standard cross-sections (*D*) 968
Furnace, oil, test 118
powdered coal, test 118
Fusiometer 816

Gage, hook 745
GAINES, F. F. Locomotive boilers (*D*) 488
GANTT, H. L. Industrial service work (*D*) 181, 184, 186
Measuring Efficiency 417
Gas, methane, physical laws of 781
natural, line flow formulae 781
Gear experiments, Seller's, quoted 480
Gear testing machine 231
GIBSON, GEORGE H. Meter testing (*D*) 757
GIELE, W. S. *Laboratory for Investigating and Testing Liquid Flow Meters of Large Capacity* 735
GILBERTSON, H. S. Municipal training (*D*) 645
Gladstone, W. E., governmental administration, quoted 615
GLASS, JOHN. Air compressor regulation (*D*) 776
Goerens, hardening steel, quoted 867
GOLDSMITH, WM. Snow removal (*D*) 567
Grinding, mathematics of 456
wheels, operation 451

Hall, A. E., ash fusion, quoted 829
Hall volume regulator for air compressors 759
HARLAN, O. K. Standard cross-sections (*D*) 974
HARRIS, HARRY E. Measuring efficiency (*D*) 423
HARTNESS, JAMES. Industrial service work (*D*) 186
President, 1914, biography 1
The Human Element the Key to Economic Problems 365
HATHAWAY, H. K. Measuring efficiency (*D*) 426
HAYES, H. C. *A Rate-Flow Meter* 707
HAYWARD, HENRY SELBY, obituary 1093
Heater, feedwater, locomotive 489, 513
HEBBARD, LOREN L. Powdered fuel (*D*) 167

PAGE

HELANDER, AXEL H., obituary 1094
HEMPSTREET, G. P. Fireproof floors (*D*) 400
HENDERSON, G. R. Locomotive, future (*D*) 530
HENDERSON, RICHARD, obituary 1094
HENDRICK, CALVIN W. Sewage sludge treatment (*D*) 600
HERSEY, M. D. Grinding wheels (*D*) 460
HESS, HENRY. Gear testing (*D*) 235
Heyn, tempering steel, quoted 861
HIBBARD, H. C. Sound steel rails (*D*) 950
High Dam power development 255
HILL, THOMAS, obituary 1095
HILL, WALTER L., obituary 1095
HIMES, ALBERT J. Engineering publicity (*D*) 579
HOOD, O. P. Clinkering of coal (*D*) 828
Hook gage 745
Hooke's joint, friction loss 461
Hopkinson and Hadfield, hardening steel, quoted 867
HOWARD, J. J. Sound steel rails (*D*) 950
HOWE, HENRY M. Hardening tool steel (*D*) 866
quoted 863
HUBLEY, F. C. Clinkering of coal (*D*) 815, 834
HUMPHREYS, ALEX. C. Municipal engineering (*D*) 618
Police organization (*D*) 549
HUNT, ROBERT W. *The Mechanical Elimination of Seams in Steel Products, Notably Steel Rails* 933
Huntingdon mill 102
HUTCHINSON, G. H. *The Handling of Coal at the Head of the Great Lakes* 283

Ideal pulverized coal burner 123
Imhoff sewage tank 594
Industrial service work in engineering schools 171
Ingots, steel, sound 933
Injector 1052
fuel dust 89, 103
International Engineering Congress, 1915 6
Iron, cast, American Foundrymen's Association standard 1003
chilled, properties 876
Isherwood, B. F., pulverized fuel burning, quoted 125

Jacobus, D. S., steam boilers, quoted 666
JENKINS, M. L., obituary 1096
Johnson, materials of construction, quoted 883
Joint, universal efficiency 477
friction 461

KELLEY, EDWARD J. Powdered fuel (*D*) 152
KENT, WILLIAM. *Classification and Heating Value of American Coals* .. 189
Kiln, rotary cement 86

PAGE

KING, CLYDE LYNDON. *Training for City Employes in the Municipal Colleges of Germany* 631
KINGSLEY, F. Snow removal (*D*) 568

LACOMBE, C. F. Municipal lighting plant (*D*) 689
LAIDLAW, WALTER, obituary 1096
Lamphrey boiler front 1052, 1066
LANG, CHAS. A. *Minneapolis Flour Milling* 341
LANGE, H. B. Standardization in factory (*D*) 447
Law, hardening steel, quoted 862
Lea recorder 727
LeChatelier, hardening steel, quoted 848
Leeds suspension bulb furnace 1037
LEVIN, A. M, *A Flow Metering Apparatus* 239
LEWIS, WILFRED. *Gear Testing Machine* 231
quoted 480
Library, municipal reference 616
LINSLEY, EDWARD B., obituary 1098
Load factor, lighting station 659
water power 278
Locomotive, ashpan 508
axle 518
big 530
boiler 488
baffle 514
capacity 483
compounding 511
cylinder 493, 516
design 516
efficiency 486
evaporation 494
exhaust 508
feedwater heater 489, 513
firebox 497
Wootten 519
firebrick arch 514
front end 500
future 530
grate area 495
Mountain type 484, 532
Pacific type 532
smokebox 500
steam 483
stoker 523, 525
superheater 509
tubes 495
valve gear 516
weight 520

PAGE

LOGAN, JOHN DOWNING, obituary 1098
Lord and Haas, researches on coal, quoted 191
LOW, F. R. *Pulverized Coal for Steam Making* 123

MCDONALD, HUNTER E. Engineering publicity (*D*) 584
MACFARLAND, H. B. Locomotive fan draft (*D*) 506
Locomotive front end (*D*) 500
Mahler, researches on coal, quoted 191
MALCOLMSON, W. J. *Friction Losses in the Universal Joint* 461
Management, industrial 177
Manometer 250
MARKS, LIONEL S. *The Clinkering of Coal* 801
Materials, handling 444
MATHEWS, JOHN A. *Factors in Hardening Tool Steel* 845
Mathias, T. H., rail seams, quoted 935
Meade, R. K., Portland cement, quoted 93
Meeting, Annual, 1914 360
Spring, 1914, ... 20
Meetings, committee on 5
local and general 6
January-June, 1914 15
September-December, 1914 357
MEIER, EDWARD DANIEL, obituary 1098
MELLIN, C. J. Locomotive compounding (*D*) 511
MELVIN, DAVID N., obituary 1100
Membership, statistics, 1914 10
increase of, committee on 12
MERRIAM, C. E. Municipal engineering (*D*) 619
Meter, flow 239, 707
testing 735
venturi 709
vortex 716
Methane, Boyle's law, variations 796
entropy 797
isothermals 789
physical laws of 781
specific heat 784, 797
specific volume 795
MEYER, ADOLPH F. *Power Development at the High Dam between Minneapolis and St. Paul* 255
Mill, cement, electric drive 955
coal 104, 109
flour 341
Fuller 101
Griffin 99
Huntingdon 102
tube 100

PAGE

MILLER, FRED J. Measuring efficiency (*D*) 425
MILLER, SPENCER. Standard cross-sections (*D*) 969
Milling machine, hot steel 938
Minneapolis flour milling 341
Minneapolis-St. Paul water power development 255
MOORE, CHARLES A., obituary 1101
Morison furnace 1037
MUHLFELD, J. E. Locomotive future (*D*) 530
Municipal engineering 605
  electric lighting plant 649
  reference library 616
  training, American 642
    German 631
MUNRO, W. B., European city government, quoted 633
MURRAY, J. WEIDMAN, obituary 1102

Natural gas, characteristics 781
NEDDEN, F. ZUR. Rate-flow meter (*D*) 732
NEFF, ELMER H. Gear testing (*D*) 235
NEFF, J. P. Locomotive firebrick arch (*D*) 514
Nichols' method of washing filters, quoted 696
NISTLE, GEORGE W., obituary 1102
NOBLE, ALFRED, obituary 1102
NORRIS, J. H. Meter testing (*D*) 757
  Standard cross-sections (*D*) 968
NORTON, A. E. Standard cross-sections (*D*) 968
NORTON, C. H. Grinding wheels (*D*) 459, 460

Organizations, industrial, value of 373
ORMAY, ARTHUR L. Standard cross-sections (*D*) 969

PALMENBURG, OSCAR W. Clinkering of coal (*D*) 824
  quoted 803
Pan-American Scientific Congress, 1915 7
PEARSON, WALTER AMBROSE, obituary 1106
PENNEY, RODNEY C., obituary 1106
PERRY, J. P. H. Factory buildings (*D*) 410
PERSON, H. S. Municipal engineering (*D*) 621
PHILLIPS, FRANKLIN, obituary 1107
Pinther pulverized coal burner 123
Pipe, cast-iron, wall thickness 32
  stresses, American Standard 32
  thread, Briggs standard, committee on 9
Pitot tube formulae 243
POLAKOV, W. A. Measuring efficiency (*D*) 427
Police, engineering future of arm 535
  New York 535
  organization, engineering 542

PAGE

PORTER, J. BENTON. *Electric Drive for Economic Operation and Development of Cement Mills* 955
POTTER, ROSSITER R. Losses in universal joint (*D*) 478
POTTER, WILLIAM BLEECKER, obituary 1107
Power, steam, cost 836
water, comparative cost 265
auxiliary 838
cost 270, 336
damages for lost 835
development 836
St. Paul-Minneapolis 255
in flour mills 345
utilization 273
value 835
Presidential address, 1914 365
Publicity, engineering 573
PUCHTA, EDWARD, obituary 1108
Puffer method of testing 466
Pulverizing machinery, fuel 98, 106
Pump, feedwater 1052
steam, water power auxiliary 279
Purves furnace 1037

QUIGLEY, W. S. *An Installation for Powdered Coal Fuel in Industrial Furnaces* 109

Railroad track scale 211
Railroads, report of sub-committee on 483
Rails, steel, A.S.C.E. Standard, depression 918
steel, behavior, under load 878
deflections 889
safe loads 889
elimination of seams 933
sound 933
RALPH, J. J. Hardening tool steel (*D*) 868
RAYMOND, A. W. Powdered fuel (*D*) ..139, 143, 145, 147, 151, 153, 155, 163
Recorder, Amsler 733
Lea 727
Records, engineering ownership of 24
Regulator, air compressor 759
Reynolds air compressor, patent 775
Rhodes, G. I., power costs, quoted 657
RICE, CALVIN W. Engineering publicity (*D*) 586
Industrial service work (*D*) 182
RICHARDS, CHARLES W., obituary 1109
RICHARDS, FRANK. Air compressor regulation (*D*) 776
Richards, J. W., cement burning, quoted 93

PAGE

Richards air compressor unloader 774
RICKETTS, E. B. Clinkering of coal (*D*) 830
RINK, G. W. Locomotive cylinder (*D*) 516
Rix air compressor, patent 779
ROE, JOSEPH W. *Industrial Service Work in Engineering Schools* 171
Rogler air compressor valve 777
Rolling mill, process 937
ROWELL, HENRY K., obituary 1109

Safety methods, in factory 445
Sand, filter, cleaning 693
SAUNDERS, W. L. Air compressor regulation (*D*) 773
Sawing machine, hot steel 938
Scale, railroad track 211
  levers 215
  bearings 216
  knife edges 216
  links 217
  shackles 217
  section moduli 218
  girders 221
  beam 225
  platform 227
SCHOFF, GEORGE C., obituary 1109
Schools, engineering, industrial service work 171
  municipal, American 642
  German 631
SCHREIBER, MARTIN. Snow removal (*D*) 569
SCHWARTZ, CARL. Municipal engineering (*D*) 624
Schwartzkopf pulverized coal burner 123
Seger cone tests 806, 828
Sewage, dewatering 591
  digesting 592
  handling 587
  tanks 594
SEWALL, M. W., obituary 1110
Shaft, rotating, endurance 518
SIBLEY, F. H. Losses in universal joint (*D*) 479
Sludge, sewage, handling 587
SMERLING, CARL. Laws of methane gas (*D*) 798
  Rate-flow meter (*D*) 734
SMITH, AUGUSTUS. Crane wheel standardization (*D*) 926
SMITH, SIDNEY LEROY, obituary 1111
Snow Conference, Philadelphia, 1914 551
Snow removal 551
  machinery 553
  principles 562

PAGE

Society affairs, Annual meeting, 1914 360
committees, special 9
standing 1, 5
committee on boiler code 9, 21
report 977
committee on Briggs standard pipe threads 9
committee on catalogues 9
committee on code of ethics 9
report 23
committee on increase of membership 12
committee on meetings 5
committee on snow removal, report 551
committee on standard cross-sections and symbols, report 965
committee on standardization for graphic presentation 8
committee on standardization of flanges 29
committee on standardization of sprinkler piping 9
council report, 1914 5
employment work 12
finances, 1914 5
Gas Power Section 5
gifts 10
meetings 5, 6, 20, 360
January-June, 1914 15
September-December, 1914 357
membership, 1914 10
publications 10
relations with other organizations 7
relations with public 9
Spring meeting, 1914 20
standardization work 9
student branches 12, 171, 180, 187
sub-committee on railroads, report 483
Sparrow, J. P., Seger cone tests, quoted 813
boiler tests, quoted 815
Specialization, value of 372
Specifications, boiler material 985
purchasing 433
SPICER, C. W. Losses in universal joint (*D*) 479
Spring meeting, 1914 20
STAGG, HOWARD J., JR. *Factors in Hardening Tool Steel* 845
Standardization, factory 431
methods 439
graphic presentation, committee 8
piping for sprinklers, committee 9
work 9
STEARNS, ALBERT, obituary 1111
Steam plant, economy 839
Steam power, cost 265

PAGE
Steel, alloy, for locomotives 517
hardening 845
effect of mass 859
furnace 865
hardened, ideal 864
ingots, sound 933
metallography 846
overheating 849
quenching 850
tempering 861
Stirling water tube boiler 667
Stoker, locomotive 523
Taylor, test 673
STONE, GEO. C. Factory buildings (*D*) 407
STORK, WILFORD L. Hardness of cast-iron (*D*) 928
STOUGHTON, BRADLEY. Hardening tool steel (*D*) 870
STREET, CLEMENT F. Locomotive stoker (*D*) 523
Student branches 12, 171, 180, 187
STUT, JOHN CHRISTIAN HENRY, obituary 1112
Superheater, drain 1050
locomotive 509
mounting 982
safety valve 1048
tubes 1038
SUPLEE, H. H. Measuring efficiency (*D*) 426

Task setting, cleaning filters 700
TAYLOR, F. W. Municipal engineering (*D*) 627
quoted 428, 610
TAYLOR, WARREN H., obituary 1112
Taylor stoker, test 673
Test, load-back method 466
Puffer method 466
Stirling boiler 673
Taylor stoker 673
turbine 672
V-notch meter 735
Testing machine, gear 231
Thallner, hardening steel, quoted 862
THOMPSON, SANFORD E. *A Study of Cleaning Filter Sands with No Opportunity for Bonus Payments* 693
Floor Surfaces in Fireproof Buildings 387
Municipal training (*D*) 646
Time study, cleaning filters 698
TIMMIS, WALTER S. Fireproof floors (*D*) 400
Toggles, wheel flange testing 892
Tool, milling, hot steel 940
Tools, standardized 441

PAGE

TRAUTWEIN, ALFRED P., obituary 1113
Travis, sewage disposal, quoted 593
TRIBE, JAMES. Air compressor regulation (*D*) 775
Tube mill 100
TUCKER, ROSS F. Fireproof floors (*D*) 399
Turbine, test 672

ULRICH, MAX JULIUS, obituary 1114
Universal joint, friction loss 461
Unloader, air compressor 759

VAUGHAN, H. H. Locomotive feedwater heater (*D*) 513
Venturi meter formula 242, 709
VERY, E. D. Snow removal (*D*) 566
VIAL, F. K. *Standardization of Chilled Iron Crane Wheels* 873
V-notch meter testing 735
Vortex meter 716

WALDRON, F. A. Measuring efficiency (*D*) 427
WALKER, G. S. Fireproof floors (*D*) 400
WALKER, P. F. Clinkering of coal (*D*) 832
  Coal classification (*D*) 206
  Friction Losses in the Universal Joint 461
  Gear testing (*D*) 235
  Industrial service work (*D*) 181, 183
  Physical Laws of Methane Gas 781
Wallis, Graham, The Great Society, quoted 616
WASHINGTON, WILLIAM DE HERTBURN, obituary 1115
WASON, L. C. Fireproof floors (*D*) 399
Water power, auxiliary 838
  cost 270, 836
  damages for lost 835
  development 836
    St. Paul-Minneapolis 255
    in flour mills 345
  utilization 273
  value 835
Watershed, average yield 837
Waterwheel, efficiency 841
WEBSTER, GEORGE S. *The Handling of Sewage Sludge* 587
WESTINGHOUSE, GEORGE, obituary 1115
Weymouth, T. R., natural gas engineering, quoted 783
Wheels, crane, desiderata 874
  diameter 886
  flange strength 891, 906
  standardization 873, 915
  tests 873
  tractive force 888
M. C. B., flange strength 907

PAGE

White, David, classification of coals, quoted 190
WHITLOCK, E. H. Engineering publicity (*D*) 585
WHITMAN, JAY M. Water power loss damages (*D*) 843
WICKHORST, M. H. Sound steel rails (*D*) 952
WIKANDER, RAGNAR. *A New Volume Regulator for Air Compressors* ... 759
WILLE, H. V. Alloy steel for locomotives (*D*) 517
WILLISTON, ARTHUR L. Crane wheel standardization (*D*) 926
Wilson, Mac Lean, sewage disposal, quoted 596
WOLF, ROBERT B. Municipal engineering (*D*) 626
WOODARD, W. E. Locomotive design 516
WOODWARD, ROBERT S. Municipal engineering (*D*) 623
WOODWARD, S. M. Flow meter (*D*) 253

YOUNG, C. D. Locomotive ashpan (*D*) 508
Locomotive boiler (*D*) 496
Locomotive front end (*D*) 507
Locomotive superheater (*D*) 510
YOUNG, JAMES J. Municipal training (*D*) 643